

Claims.

1.- A projection device, wherein light emitted from at
5 least one light source, is split in different colors, in
particular primary colors, and subsequently is transmitted
to respective light valves, said projection device
comprising several optical components, wherein said optical
components are arranged in such configuration that at least
10 one splitting takes place at a location in which the light
of said at least one light source is still in a quasi-
parallel or parallel state.

2.- A projection device, wherein light emitted from at
15 least one light source by means of light splitting
elements, is split in different colors, in particular
primary colors, and subsequently, is transmitted to
respective light valves, said projection device comprising
several optical components, amongst which at least one
20 light integrator or light integrator component, which
integrator or light integrator component is located in the
path followed by the light downstream of at least one of
said light splitting elements.

25 3.- The projection device according to claim 2, wherein
said device comprises a light integrator or light
integrator components for each of said colors, each of
these light integrators or light integrator components
being located in the path followed by the light downstream
30 of the light splitting elements creating the light of the
color concerned.

4.- The projection device according to claim 2, wherein said light integrator components are substantially composed of fly-eye lenses, forming part of a fly-eye integrator.

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5.- The projection device according to claim 2, wherein in the path of the light of at least one primary color, after being splitted from the other primary colors, a polarizer, in particular a prepolarizer, for example a prepolarizing array, is provided downstream from the corresponding integrator or integrator components.

15 6.- The projection device according to claim 2, wherein, in the path followed by the light, directly or indirectly downstream from said integrator or said integrator components, an imaging lens or condenser lens is provided.

20 7.- The projection device according to claim 2, wherein the path followed by the light, upstream from the light splitting elements, is free from an integrator or integrator components.

25 8.- The projection device according to claim 2, wherein the path followed by the light, upstream from the light splitting elements is free from any sort of polarizer, in particular prepolarizing arrays.

30 9.- The projection device according to claim 2, wherein the path followed by the light, upstream from the light splitting elements, is free from any sort of imaging or condenser lenses.

10.- A projection device, wherein light emitted from at least one light source by means of light splitting elements, is split in different colors, in particular primary colors, and subsequently, is transmitted to respective light valves, said projection device comprising several optical components, amongst which at least one polarizer, in particular a prepolarizing array, wherein this polarizer or prepolarizing array is located downstream from at least one of the light splitting elements, and preferably downstream of all light splitting elements which are required to obtain the light of the color in which said polarizer or prepolarizing array is located.

15 11.- A projection device, wherein light emitted from at least one light source, is split in different colors, in particular primary colors, and subsequently is transmitted to respective light valves, wherein these light valves create colored images which by means of polarizing beam splitters, are directed to a color composition element, such as an X-cube, wherein at least one of said polarizing beam splitters, and preferably each of said polarizing beam splitters, consist of wire-grid polarizers.

25 12.- A method for transmitting light in a projection device, wherein light emitted from at least one light source is split in different colors, in particular primary colors, and subsequently, is transmitted to respective light valves, wherein one of the following steps or a combination of two or more of the following steps takes place:

- that for at least one of said colors, or for at least one group of already split-off colors, and preferably for each of said colors, the splitting of the light takes place at a location in which the light of said at least one light source is still in a quasi-parallel or parallel state;
- that for at least one of said colors, or for at least one group of already split-off colors, and preferably for each of said colors, an integration takes place after the splitting in the respective color or group of colors is carried out;
- that for at least one of said colors, or for at least one group of already split-off colors, and preferably for each of said colors, a prepolarization takes place after the splitting in the respective color or group of colors is carried out, whereby this prepolarization in case of an integration of the light is preferably carried out after this integration;
- that for at least one of said colors, or for at least one group of already split-off colors, and preferably for each of said colors, a splitting upto this color or group of colors, takes place before any focussing with respect to this color or group of colors is carried out;
- that by means of the light valves colored images are created which by means of polarizing beam splitters are directed to a color composition element, such as an X-

cube, wherein for said polarizing beam splitters, wire-grid polarizers are applied;

5 - that the light of the different colors is transmitted through the projection device in such a manner that, in respect to each other, an inversion is excluded, this preferably in combination with the use of an X-cube and transmissive displays.

10 13.- The method according to claim 12, wherein before the first splitting step of the splitting into the primary colors, and preferably before any of all splitting steps applied, no integration and/or no focussing takes place.